SEALIFT

AUGUST 1973

Opportunity knocks

One story in this issue of Sealift concerns re-establishment of a Naval Reserve Merchant Marine program. While there is no need for me to repeat details contained in that story, I would like to comment upon the program.

My own feeling is that this program represents an important step to encourage even closer cooperation between the U.S. Navy and all elements of the U.S. Merchant Marine in order to strengthen national seapower.

Because of that belief, I intend to do all I can to assure the success of the Naval Reserve Merchant Marine, beginning with encouragement of all who are eligible to get as much information as they can about the program, its purpose, and the benefits it offers.

I also would urge every member of Military Sealift Command, staff personnel and seagoing merchant mariners, to lend this program their personal support. If we are to rely upon commercial ships to provide needed sealift resources both in peacetime and in an emergency, it is obviously logical to provide crews of merchant type ships with the type and degree of training they require to make them full-fledged members of the Navy team.

But, we also must make certain that they gain individual benefits from such a program. I think the new program provides many worthwhile inducements. Navy reservists can qualify for military retirement, can draw retirement pay and can take advantage of retirement benefits such as clubs, hospitals, commissaries, exchanges and other facilities.

While no decision has yet been made, it is possible that participation in the Naval Reserve eventually may be a prerequisite for assignment of officers aboard MSC ships involved in direct support of the Navy fleets—ships such as the USNS Taluga and USNS Passumpsic. I would suggest that those who may want to take part in the program get in on the ground floor by applying for a Naval Reserve commission as early as possible. This would benefit the individual, who would receive a rank commensurate with his maritime experience and who would then have an opportunity to help develop the training program which will be geared to individual needs of those involved.

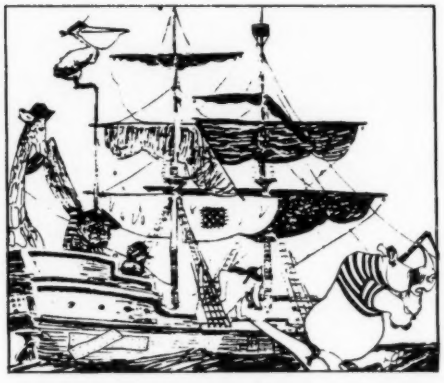
Success of the program obviously requires participation by senior, experienced people who can offer substantial contributions. We particularly welcome ideas you may have with regard to the curriculum, training methods and related areas.

As the accompanying article indicates, this program was conceived and developed by the Chief of Naval Operations Admiral Elmo R. Zumwalt Jr., and Mr. Robert Blackwell, Assistant Secretary of Commerce for Maritime Affairs. They believe in it—and recognize the need for it—as I do.

It will be successful, however, only if each of us who are involved understand the intent of the program, recognize the need for its success, and are willing to make an effort to insure that this program is indeed a dynamic and worthwhile successor to previous Naval Reserve Merchant Marine programs phased out more than a decade ago.

John D. Chase

Commander, Military Sealift Command



COVER: "We're all in the same boat." Art by Linda Maselas.

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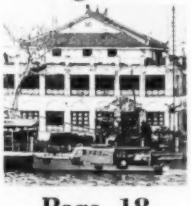
Features:

Deepwater ports
Page 4

Naval Reserve Merchant Marine
Page 8

MARAD Report
Page 14



MSC Office, Vietnam
Page 18

Other Features:

Language of the sea that came ashore—page 11; AB&T's long tow—page 16.

REAR ADM. JOHN D. CHASE
Commander, Military Sealift Command

LARRY C. MANNING
Legislative and Public Affairs Officer

LOUIS R. GRANGER
Public Affairs Officer

JOSN HOWARD L. ROSENBERG
Editor

HENRY L. BALLOON
LINDA MASELAS
Graphics

RUSS EGNOR
Photo

ED NURENBERG
LINDA McDANIEL
Contributing Staff

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The 20th Century Flying Dutchman

by
Louis Granger

The nautical myth of the 17th century Flying Dutchman, doomed to sail the seas but unable to find rest at home, is no myth in the 20th century.

The first U.S. flag "Flying Dutchman," the 225,000-deadweight-ton (dwt) supertanker T. T. Brooklyn, built by Seatrain Shipbuilding Corp., was launched in Brooklyn June 30.

The United States has plans to develop, with assistance of construction subsidiaries, a fleet of 30 to 40 more supertankers to carry oil from the Persian Gulf to world consumers.

Why are these giant tankers Flying Dutchmen? The answer is that once they begin to ply the oceans they will not be able to tie up at any U.S. port.

Sen. Ernest F. Hollings (D., S.C.), chairman of the Subcommittee on Oceans and Atmosphere of the Senate Commerce Committee, said, "Although there are 50 ports in the world today which can handle supertankers, the U.S. is without a single place to tie up and offload one of the 463 tankers of the so-called 'super' category now in existence."

The supertankers Senator Hollings refers to are those of 100,000 deadweight tons and above. Very large crude carriers (VLCC) are 250,000 deadweight tons and more and offer economic advantages in transportation of crude oil over long distances, such as from the Persian Gulf to the United States via South Africa.

These 250,000 dwt vessels are more than 1,000 feet long and have a full load draft of approximately 70 feet.

Tankers of about 325,000 dwt have been in service for more than four years, and recently some 380,000 dwt vessels have been delivered. Two 540,000 dwt jumbo VLCCs are under construction in France for Shell Group-France with delivery expected in 1976. The Maritime Administration has a construction differential subsidy application pending which covers six jumbo 380,000 dwt crude oil tankers for the Virginia Shipping Corp. These U.S. flag tankers would be built at Todd Shipyards Corp. and operate in the oil trade between the Persian Gulf and the U.S. Gulf Coast.

No VLCCs currently serve the continental United States directly. There are no terminals capable of handling them. Fully loaded vessels larger than 80,000 dwt only can enter two U.S. harbors, Long Beach, Calif., and Seattle, Wash.

Although the giant tankers are here today, deepwater ports and offshore mooring facilities are apparently not far behind. The Nixon Administration has urged Congress to approve legislation allowing construction of offshore ports for VLCCs.

The case for offshore deepwater facilities is a strong one.

National Petroleum Council (NPC) has projected net oil imports will increase from 1.3 million barrels in 1971 to 2.7 billion barrels in 1975, 4 billion in 1980, and 5.3 billion in 1985. The latter figure would amount to 57 per cent of our oil supply and half of the total energy consumption. The NPC forecasts for oil imports are not the highest.

The New York State Public Service Commission forecasts 1980 oil imports of about 6 billion barrels, on the premise that the NPC has overestimated the actual supplies of low sulfur coal available for electric power generation.

These increased oil imports will be carried for the most part by tankers, the rest by pipeline and local production.

It is likely that at least 5 to 6 billion barrels of oil (13.6 to 16.5 million barrels a day) will be brought into U.S. ports in 1985. This figure is nearly equal to all of the oil cargoes of the entire world in 1971.

The cost per ton-mile in sea transport for bulk commodities drops sharply as vessel size increases. The use of 200,000 dwt vessels rather than those of 50,000 to 65,000 dwt would reduce transport costs by as much as half on long passages.

Maritime Administration in its final environmental impact statement released in June, said on the Persian Gulf to the Atlantic Coast run the per barrel cost for a 50,000 dwt vessel is 89 cents, but 40 cents for a 200,000 dwt vessel. Using the NPC's projected imports for 1985 of 13.5 million barrels a day, the cost savings to this country by using VLCCs would be $6.6 million a day,

or almost $2.5 billion a year. While not all imports will come from the Persian Gulf, these figures give some indication of the economic pressure for use of VLCCs.

"It can be concluded that the primary pressure for construction of U.S. facilities to handle VLCCs comes from both industry and government sources interested in the very sizeable economic savings involved," the administration report stated.

The financing and construction of the various deepwater terminal systems will be left to industry with licensing approved by federal and state governments.

Jack O. Horton, assistant secretary of the Interior for land and water resources, said there are two advantages of deepwater terminals. First they would reduce port congestion and the attendant risk of oil spills from collision or grounding. If a spill does occur at a deepwater port, there would be more time to clean it up before it reached the beaches and sensitive estuarine areas.

"Second obvious advantage of deepwater ports is that they can accommodate deep draft tankers. These tankers require from 60 feet of water for the smallest, to more than 100 feet of water for the largest. The Atlantic and Gulf Coast ports are relatively shallow waters and the surrounding seabed slopes off gradually. The Port of Houston, for example, is 110 miles away from water 100 feet deep.

"VLCCs are unquestionably here to stay for the very simple reason that they can move oil for significantly less cost, particularly on the long haul from the Persian Gulf. The question is simply whether these large tankers will unoad in the Caribbean or Canada for trans-shipment to the United States, or whether they will bring their cargoes directly to this country via deepwater ports off our own coast. This represents a substantial cost savings for the American consumer,'" he said.

Construction of the first U.S. offshore deepwater port is expected to begin by mid-1974 at Lafourche in Louisiana's Cajun country 21 miles south of Bayou Lafourche in the Gulf. It will be a $500 million facility capable of handling tankers of up to 500,000 dwt.

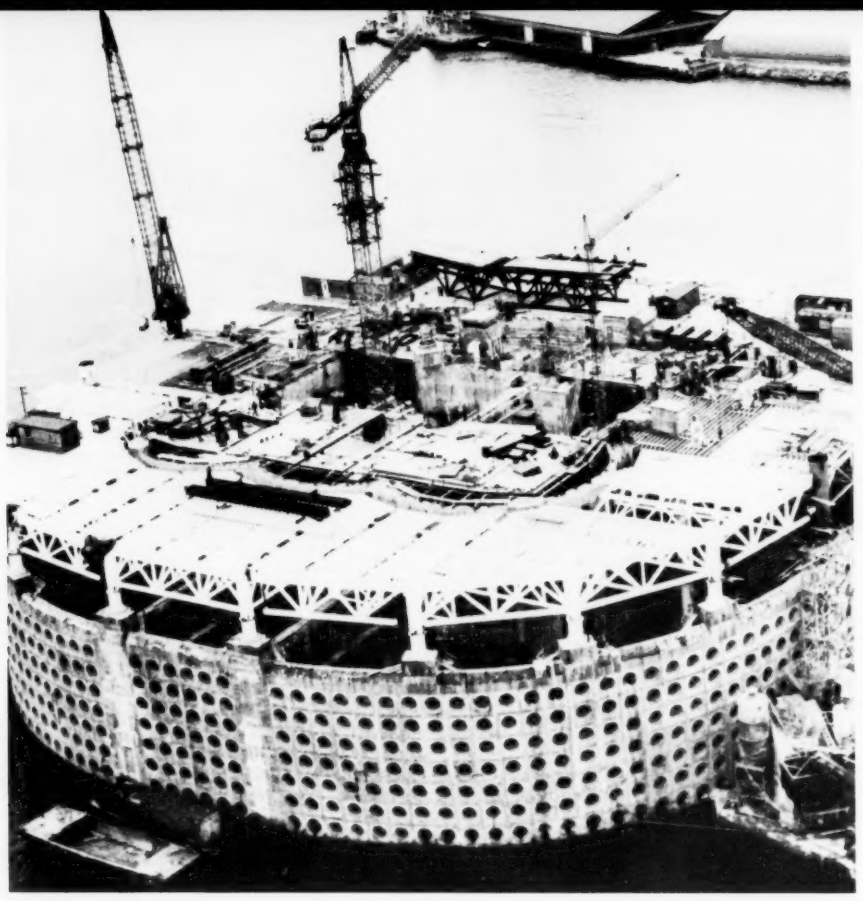
A consortium called LOOP for Louisiana Offshore Oil Port, Inc., proposes to build the port consisting of huge floating buoys to receive oil tankers too big to dock at U.S. ports, pump platforms to push oil through large diameter pipelines to shore, and on-shore oil storage tanks.

Part of the oil coming through the LOOP superport would be fed into the St. James (La.) terminal of Capline, a pipeline that can move oil at a rate of 1.2 million barrels a day from the Gulf Coast to the midwest and as far north as Chicago.

LOOP President William B. Read said limited operations would be possible by mid-1976. Initially, the port will handle only 1.7 million barrels a day, but that could be raised to 4 million as the number of buoys is increased from three to five and the number of pipelines doubled to four.

In the first stages there would be several buoys, each attached to base on the Gulf floor. The buoy system, according to LOOP, is inherently safe because it will allow a supertanker to swing freely with the tide as it unloads its cargo.

BROOKLYN: Seatrain Lines' T.T. Brooklyn nearing completion at the Brooklyn Navy Yard. The 225,000 dwt ship is the largest tanker to be built in the United States.



EKOFISK ONE: A million barrel oil tank nears completion in Norway before being towed out in the North Sea.

Among the major LOOP companies are: Ashland Oil, Inc.; Chevron Pipe Line Co.; Exxon Pipeline Co.; Marathon Oil Co.; Shell Oil Co.; Tenneco Oil Co.; Texaco, Inc.; Union Oil Co. of Calif.; Standard Oil Co. (Ohio), and Texas Eastern Transmission Corp.

An Army Corps of Engineers' port study says a monobuoy system such as the one proposed by LOOP is the least hazardous way of delivering crude oil from tanker ships to the shore.

Deepwater petroleum ports generally fall into two principal categories: moorings and fixed structures.

Moorings come in two varieties, conventional and single point moorings. The conventional mooring uses a number of buoys to maintain a tanker in a given position. They usually become unusable when seas with a height of 4 feet or more approach the berth at a small angle off the bow or stern.

This type of facility requires more moderate wind conditions than other offshore berths. They generally become untenable in beam or quartering winds greater than 35 miles an hour.

A single point buoy mooring generally consists of a flat cylindrical buoy with a vertical axis held in position by a system of anchors and chains. A turntable on top of the buoy holds floating hoses which attach to the tanker. Oil from the tanker goes through the buoy and into hoses that lead into a submarine (buried) pipeline leading to shore. With single point moorings, tankers can swing around the buoy with tides and winds. The main problem is that the buoys are difficult to pick up in heavy weather.

The Maritime Administration first objected to single point moorings because of possible oil spills. Originally the administration advocated a self-contained tank farm so that small barges could take oil whenever needed. Now, however, the administration is engaged in research to encourage better design of single point moorings to reduce possibility of spills.

Fixed offshore structures to handle VLCCs also come in two types, single pile mooring piers and artificial islands.

The mooring pier consists of a pylon or tower fixed to the sea floor on which is mounted a long semi-submersible floating structure supported by a swivel connection to the tower at one end and a floating tower at the other. The tanker is moored at the bow permitting it to stay headed into the wind. The oil moves through a hose connected to the floating structure and into a submarine pipeline.

Sea islands require tankers to moor at fixed berth facilities. The islands permit installation of several all metal loading arms through which the oil can be trans-

ferred. The terminal can include a breakwater to reduce effects of wave action, storage tanks, pumping equipment, or dock space for shuttle vessels. The oil can be moved either by smaller shuttle vessels, a tug and barge system, pipelines or a combination of these.

A deepwater oil terminal is under construction on Grand Bahama Island, 120 miles east of Florida. Designed by Frederic R. Harris, Inc., New York City consulting engineers, the unloading and transfer facility is 4,000 feet from shore in 100 feet of water. It will accommodate VLCCs up to 350,000 dwt. The oil can be pumped into eight storage tanks onshore through 36-inch-diameter submarine pipelines or directly into smaller tankers for trans-shipment to U.S. Gulf and East Coast refineries.

The $40 million terminal will have a 1,470-foot-long pier and is scheduled to go into operation in mid-1974. The facility is being built for Burmah Oil Tankers, Ltd. of Bermuda.

Meanwhile, Seadock, a group of 12 oil companies, plans to build a single point mooring facility similar to the LOOP proposal 34 miles off Freeport, Tex., in 90 feet of water.

Deepwater facilities have also been proposed for Delaware Bay and Boston Harbor. Delaware, however, has a 1971 law that forbids offshore oil terminals. The Coastal Zoning Act bans any significant industrial growth along or near Delaware's coastline, and Gov. Sherman W. Tribbitt has said he believes it also outlaws any superport in Delaware Bay.

Another method of bringing oil to the U.S. via VLCCs has been proposed by Dykerhoff & Widmann (D&W), a design and construction company of Munich, Germany. The firm has designed a huge self-propelled U-shaped concrete vessel that could harbor a pair of 500,000 dwt tankers within it without anchoring. Oil would be transferred to smaller tankers. A boom across the rear of the vessel could contain any oil spills.

Richard Heinen, president of D&W's New York City subsidiary, said the vessel could store a million tons of oil in its tubular hull and weather the worst storms. Its engines would position it so accurately that it could hook up to a pipeline buoy to pump oil ashore.

The greatest advantage of such vessels is that they could be registered as ships and moved to offshore areas as needed, Heinen said.

A vessel would weigh approximatley 800,000 tons and be constructed by prestressed concrete. It would be 790 feet wide, 1,706 feet long and its two sides would provide a 1,500 feet long, 475 feet wide, water basin for tankers.

The firm's first vessel could be completed in less than four years at a cost of about $200 million, and do the job of supplying oil better, faster and at less cost than other methods, according to D&W.

To keep it in position, 14 engines of 3,000 horsepower each can bring the vessel up to a maximum speed of 2.2 knots in 10 minutes and stop it in seven minutes. This speed is adequate to keep it steady and even under severe weather conditions such as a hurricane.

The quest for oil has also led man to construct the biggest man made object ever to float, Ekofisk One, a $28 million offshore oil tank capable of storing a million barrels of crude oil.

The tank rests on the sea floor in 235 feet of water 200 miles off the British coast in the North Sea. Built by an international oil consortium headed by Phillips Petroleum Co., the tank required 21 months of construction at a site in one of the deepwater fjords of Norway. It was towed to its permanent site at Ekofisk oilfield in mid-June.

Made of reinforced concrete and tensioned steel cables, it will hold three-days supply of oil to help maintain a constant production flow in the event of adverse weather conditions. It extends 65 feet above the water's surface and is 295 feet from top to bottom.

Designed by a French company, the tank has an energy-absorbing breakwater consisting of an inner storage section surrounded by a perforated wall allowing sea water to flow into the space between the inner and outer walls.

The Ekofisk area is one of the largest fields in the North Sea. Maximum production is expected to exceed 500,000 barrels of crude oil a day when full production gets under way. Oil from four wells has been loaded directly into tankers moored to one of two loading buoys which are connected by pipeline to a production platform.

A tanker can turn 360 degrees around a buoy so changes in wind and current do not hamper loading operations. But in severe weather a tanker may be forced to disconnect before taking a complete load. Ekofisk One was designed to rectify that situation. Its one million barrel capacity will outlast most storms.

With plans, proposals and construction schedules for deepwater ports underway, the United States' growing fleet of Flying Dutchmen may soon be permitted to find rest at home. □

Merchant mariners now can hold commissions in the Naval Reserve. In a contingency situation,

"We will be ready . . ."

by
Larry Manning

Deck, engineering and communications officers of the U.S. Merchant Marine and those serving in Military Sealift Command's United States Naval Ships (USNS) may take part in a new Naval Reserve Merchant Marine program announced in mid-July by Navy Secretary John W. Warner.

The program provides for establishment of reserve units both ashore and aboard ships with officers of merchant type ships now made eligible for Naval Reserve commissions in ranks ranging from ensign to captain.

Merchant marine or MSC officers who already hold Naval Reserve commissions in an active status as line or limited duty engineering, communications or deck officers are eligible for participation in the new program.

Commissions ranging from ensign to captain also are being offered deck and engineering officers with communications officers eligible for ranks from ensign to lieutenant commander. Deck and engineering candidates must be between 19 and 49 years old, have at least a high school diploma or equivalent, and a license as a third assistant engineer or higher. Deck officers must meet the same requirements except that they must hold a license as a third mate or higher.

Communications officers seeking reserve commissions must be between 19 and 41, and have a Coast Guard radio officer's license. They also must have at least a second class radio telegraph license issued by the Federal Communications Commission with an endorsement of sea time issued within the six month period preceding application.

Graduates of the U.S. Maritime Academy at Kings Point, N.Y., and the state maritime academies also can qualify for commissions in the Naval Reserve Merchant Marine program. In addition, retired Navy officers filling seagoing jobs in the U.S. Merchant Marine can take part in the program.

Purpose of the new program is to provide specialized naval training for qualified merchant marine officers so that close cooperation and effective operations can be maintained by merchant marine and Navy ships in peacetime, a contingency or an emergency situation.

Generally, reservists enrolled in the Naval Reserve Merchant Marine program will not augment combatant ship crews in such an emergency. They would, except in a few individual instances, man merchant type ships involved in emergency operations, many times the same ships they serve aboard as merchant mariners.

Two types of organizations will be established. Merchant Marine Reserve Companies will be shore based and will be established in major port areas. First units are expected to be activated at San Francisco, New Orleans, New York City and Seattle. There is no limit as to the number of reserve officers who can take part in the program.

Each company ashore will administer operations of as many as 10 detachments. These units will be seagoing units and will be set up on merchant or MSC government owned ships when half of the eligible officers aboard ship indicate a desire to participate. Ordinarily, the senior officer aboard participating in the program would be in charge of the detachment.

Ashore companies will hold at least 24 drill sessions a year, as will shipboard detachments. While the curriculum has not yet been fully developed, academic training will include courses in naval organization, regulations and customs, administration, communications, and engineering. Other phases of instruction will include engineering, damage control, naval ordnance, logistics and supply and the Uniform Code of Military Justice. Also a part of training will be instruction in underway replenishment techniques, amphibious operations, tactical use of radar, nuclear-biological-chemical warfare, escort and convoy tactics, communications practices and duties.

Courses will be set up so that a reservist may move from ship-to-ship, or between ship and shore—taking his training with whatever unit is nearest his residence or place of work, without delay or repetition of courses.

While instructors will rely on lectures, films, texts and standardized lesson plans, curriculum planners are hoping that afloat units also will be provided packaged and

programmed learning materials and audio-visual equipment. It is possible, if funds permit, that video and audio tape cassettes will be provided which can be used in either group or individual training.

Planners also report that training, especially in seagoing detachments, may be a part of actual ship operations. Examples include underway replenishment and logistics supply missions ships and crews now perform in support of the military services.

In addition, reservists can apply for active duty for training up to 30 days a year. They also can attend advanced Navy schools. Those who apply in the first half of each fiscal year stand a good chance of receiving full Navy pay during active duty training. However, fund shortages may mean no active duty pay for some who apply in the last two quarters.

Reservists also can perform special projects or take correspondence courses. All training, including special projects and correspondence courses result in earning of a number of points on which retirement pay and eligibility are based.

THINK TANK: Representatives of the Maritime Administration and Navy commands meet to devise a curriculum.

CHAIRMAN: Cmdr. John E. Craig of the Naval Reserve curriculum board was the chairman of the study group.

A two-hour drill period, for instance, is worth one point, as is a shipboard training session. One point per day is assigned for active duty for training with points for correspondence courses and special projects established individually, and based on the nature of the project or scope of the course.

Reservists can retire at age 60 with pay, or retire earlier if they have sufficient points and years and begin drawing retirement pay when they are 60. To retire, reservists must accumulate 50 points per year and have attended at least 90 per cent of 24 scheduled drills. However, units can and no doubt will schedule more than 24 drills each year. In addition, each reservist is given 15 gratuitous points for each year of satisfactory service.

Twenty years of satisfactory service are required for retirement. However, in announcing the program, Secretary Warner indicated that Navy will equate merchant marine service during World War II, Korea, and Vietnam with prior military service for age waivers for merchant marine officers who wish to join the reserve program.

Following retirement, members of the Naval Reserve Merchant Marine will be allowed to use military clubs, commissaries, exchanges, hospitals and other facilities on the same basis as other retired personnel. They can use the same facilities, except hospitals, prior to retirement only when actually on training, such as during a day of a drill session or while on active duty. Privileges given retirees also will be extended to their families.

Retired pay is a product of base pay for retirement grade, points accumulated, and years of service. To compute retired pay the average number of points per year is multiplied by 2½ per cent, then multiplying the result of that computation by the pay for retirement grade and total years of service. Maximum retirement pay is 75 per cent of base pay. Social Security and Civil Service retirement benefits may be received concurrently with retired military pay and reservists also are exempt from dual compensation laws which restrict retirement income of regular officers working for the Federal government.

Establishment of the new program is primarily a result of close cooperation between Chief of Naval Operations

DISCUSSION: P. L. Albright, (L) of the Maritime Administration and Cmdr. Robert E. Lando of the Office of Naval Intelligence discuss a curriculum point.

Adm. Elmo R. Zumwalt Jr. and Assistant Secretary of Commerce for Maritime Affairs Robert J. Blackwell. The program succeeds a previous program phased out in 1963, that program having been established by the Naval Reserve Act of 1925 and the Merchant Marine Act of 1936. Since the phase-out, only source of Naval Reserve commissions for merchant marine officers has been via graduation from the U.S. Merchant Marine Academy or state maritime academies.

Admiral Zumwalt indicated his strong support of the new program in an August 1972 letter to all his commanders which concerned Navy-merchant marine initiatives, all geared toward improving Navy-merchant marine cooperation.

He said he felt a workable reserve program for merchant marine officers was necessary if other recommendations involving merchant marine-Navy cooperation and operations were to succeed. "This program," he concluded, "should provide . . . inducements to insure that a suitable portion of available licensed merchant marine officers with proper training become a viable part of our Naval Reserve forces."

Rear Adm. John D. Chase, commander of Military Sealift Command, also is a strong supporter of the program. He has a role in its implementation, being double-hatted as a member of the CNO staff and responsible for monitoring the program.

Direct administrative support will be provided by each of the 13 Naval District commandants, with training supervision provided by the Chief of Naval Reserve Training. Navy recruiting also will be involved in advertising the program and assisting in recruitment of reservists.

While all details as to specific dates for establishment of initial companies and the complete contents of the training curriculum are not yet final, interested merchant marine officers and those aboard MSC ships may submit a letter application to the commandant of the naval district nearest their home port. Added details may be secured by writing Cmdr. Thomas Groce, head of the MSC Naval Reserve Division, or by calling him on 202–282–2611. His mailing address is Military Sealift Command (M–13), U.S. Navy, Washington, D.C. 20390. □

Language of the sea

(that came ashore)

by
Louis Granger

From the days of iron men and wooden ships the colorful seafaring jargon of our maritime beginnings has come to 20th century landlubbers.

Origin of words and phrases we use in our day-to-day lives might surprise most of us and few realize that many of them originated at sea.

If you say you're *groggy* at the end of the day (or at the end of the bar) and start the work week proclaiming another *blue Monday*, your language is that of the sea.

Tell a new employee that he is "*learning the ropes*" and later tell the newcomer that "*we're all in the same boat*" when he says that something is not understood, and your language is on the same nautical course.

It is sea language that came ashore.

For example, *watch*, the time piece you wear on your wrist or carry in your pocket, originated as a word in 1772 when the English circumnavigator and explorer Capt. James Cook referred to the first chronometer used at sea as "our trusty friend, the watch."

The chronometer Captain Cook spoke of was aboard his ship Resolution and was a ship's bell clock that signaled each watch by the number of bells it sounded.

Eight bells signal the end of a watch and the beginning of another, and ring at 12, 4 and 8 a.m., and are repeated at 12, 4 and 8 p.m. They are struck sharply in pairs on the hour and an odd number of times each half hour.

The watch aboard ship is not only a portion of time during which a part of the crew is on duty, it also is the portion of the crew required to be on duty during a watch.

Thus, when the chronometer signaled each watch, it became known as the watch. The term changed over the years to mean any portable timepiece.

If you're feeling *groggy* by now, that too is a word born at sea. The term started to get its popular meaning in the 18th century when English Adm. Edward Vernon (1684–1775) ordered that British sailors be given a daily ration of watered rum. This tradition continued until 1970. The spirit ration was abolished aboard U.S. men-of-war in 1862 and on board any naval vessel in 1914. Because Vernon was in the habit of wearing a grogram cloak, his crew nick-named him "Old Grog" and his ration of rum became known as grog.

(Grogram is a coarse, loosely woven fabric of silk, silk and mohair, or silk and wool, according to Webster's dictionary).

Groggy later described prize fighters who had taken too much punishment and a sailor who had taken too much rum.

Prior to 1898 merchant ship captains could decree that a sailor rated a flogging for various offenses. It was the custom to have all the punishments adjudged during a week at sea meted out to the unlucky crew members at one time on Monday. For obvious reasons that day became known as *blue Monday*.

Flogging was to lash or beat a sailor with a rod, rope's end, whip or cat-o'-nine-tails and usually in the brig. If it happened that the brig was too crowded the first mate would report to the captain, 'Sir, there is no room to swing a cat." The master would then order the flogging

done on deck where the "cat" could be swung with the proper twist of the first mate's wrist.

Thus, when someone wishes to convey the discomfort of being in tight quarters, he will often call upon the phrase, "*there's no room to swing a cat.*"

As you *learn the ropes* around your new job, you are going back to the sailing days when vessels were a jungle of lines (ropes) to the new hand. All lines have special names such as sheet, halyard, hawser, ratlines and shrouds. And on a full rigged ship simply learning the names of the numerous halyards could drive a greenhand to distraction. But when you *learned the ropes*, you learned your job.

Pouring oil on troubled waters may have come from an ancient Chinese legend. It tells of a Chinese junk caught in a storm with a cargo of fish oil. When the storm was at its fiercest and the vessel in imminent danger of sinking, the sea around the junk became calm and ceased to break over the ship. It was later discovered that a seam had split below allowing fish oil to escape into the boiling sea.

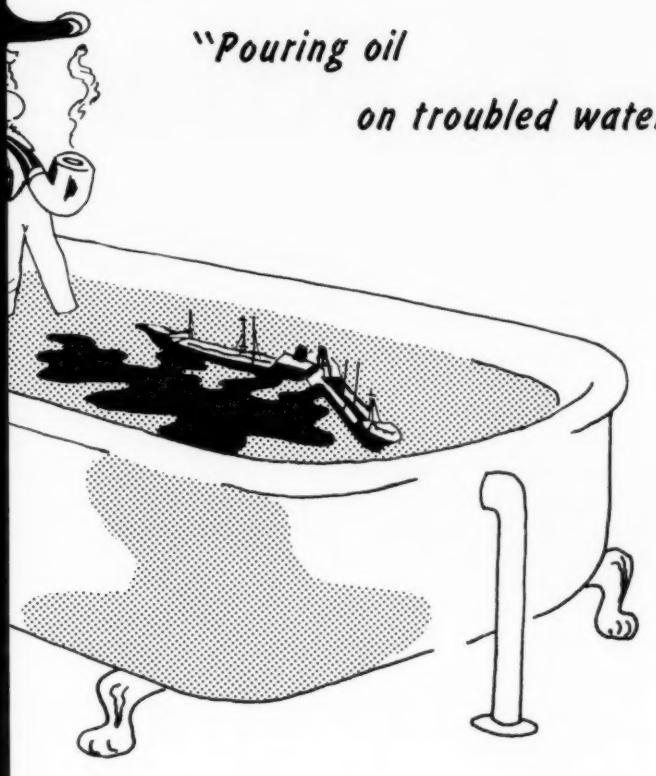
The expression *squared away* was also coined in the days of square-rigged vessels. It indicated that the braces (lines from the yardarms by which the yards are trimmed from the deck) were all set with the sails ready to run before the wind and that everything was in its proper place. On a square-rigged ship the sails would be set to right angles of the fore-and-aft line and the wind blowing from the stern.

If you've got that *squared away* we can move on to describe an honest and straight-forward person and call him *open and aboveboard*.

This term comes from the time when small coastal vessels, usually luggers and smacks, were open boats, not decked over. These boats were often boarded by government inspectors looking for evidence of smuggling. The "board" part of the phrase comes from "borde" meaning the side of a ship or boat. So anything that was *open and aboveboard* was readily available for inspection.

Although the British seem to have contributed most to the nautical language, *the devil to pay* is French. Pay is from an old French verb meaning to spread pitch (tar) and the devil was a seam near the keel, difficult to reach. Thus, when a French sailor had the *devil to pay* he had a difficult task and a trying time.

"Pouring oil on troubled waters..."



In the days when the skull and crossbones flew on the mizzenmasts of private ships and freebooters did their worst, many merchants were elated to see their *ship come in*. It was sudden wealth, a meaning which was the same then as it is today. But it had a literal meaning then as men watched the seaward horizon for signs of a familiar sail.

In the early days of seaborne trade, promoters often sent ships to distant lands with hopes of having them return laden with profitable cargo. To finance such projects the promoter borrowed money, giving the lender a promissory note to repay the debt. But since no one could possibly say when the vessels and its hoped-for cargo would return, no date was set for repayment of the loan. Instead the promoter promised to pay *"when my ship comes in."*

It was just such an arrangement that sent Columbus to America, except Columbus did not just wait around for his ship to come in, he went along with it.

In the days when the old Navy was the "new" Navy, "wives" were permitted to sail with their husbands. Many cruises were more extended than they are today and when a pregnant wife was overdue the skipper fired a cannon which would activate that last "heave" to prompt the delivery. Hence the phrase, "son of a gun."

A British officer commanding a brig off the Spanish coast in 1835 wrote in his diary, "This day the surgeon informed me that a woman on board had been laboring in child for 12 hours, and if I could see my way to permit the firing of a broadside to leeward, nature would be assisted by the shock. I complied with the request and she was delivered of a fine male child." □

EDITORS NOTE: There are many more words and terms used today that originated at sea. Sealift magazine would appreciate hearing from readers who can give some of the origins of these words and phrases.

MARITIME ADMI

REPORT

With the award of a record-setting $1.3 billion in shipbuilding contracts during the fiscal year which ended June 30, President Nixon's program to rebuild the American Merchant Marine has moved into high gear.

"These contracts represent the greatest volume of shipyard business under the Maritime Administration's construction subsidy program in any peacetime year since it began in 1936," said Assistant Secretary of Commerce for Maritime Affairs Robert J. Blackwell, who heads the agency.

Covering 17 new ships and three container ship conversions, the Fiscal Year 1973 contracts swell the shipyard orderbook to 47 new ships and 16 conversions, valued at almost $2.4 billion.

For American shipyard workers, the ship construction generated by the program means nearly 115,000 man-years of work over the next several years. For seafaring personnel, the ships will open several thousand new job opportunities, Blackwell said.

Contracts for 10 new ships were signed in June, Blackwell pointed out. Comprising this total are three liquefied natural gas (LNG) tankers, three very large crude-carrying tankers (VLCC) and four 89,700 deadweight-ton (dwt) tankers.

Earlier in the year, contracts covering six liquefied natural gas ships and one roll-on/roll-off vessel, as well as the three conversions, were awarded.

Avondale Shipyards, Inc., of New Orleans, La., and Newport News Shipbuilding and Dry Dock Co., of Newport News, Va., will each build three 125,000-cubic-meter LNG carriers for El Paso Natural Gas Co. under pacts signed this past fiscal year. General Dynamics Corp.'s Quincy, Mass., Shipbuilding Division is building three of these technologically advanced ships for the Eascogas project.

The three VLCCs ordered this year represent follow-on orders to previously signed contracts.

Bethlehem Steel Corp.'s Sparrows Point shipyard in Baltimore will build two additional 265,000-ton tankers—these for Gulf Oil Corp.—while Seatrain Shipbuilding Corp., located in the former Brooklyn Navy Yard, will construct another 225,000-ton crude carrier.

This year's award of four 89,700-ton tankers to National Steel and Shipbuilding Co., of San Diego brings

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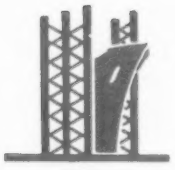


that yard's orderbook to 12 tankers and combination ore-bulk-oil vessels, nine of them of the same design.

As well as pushing the fiscal year's shipbuilding volume to record levels, the June contract awards were notable in other respects, Blackwell stated.

The four tankers to be built by National Steel—equipped with double bottoms and segregated ballast capacity equal to 40 per cent of their total displacement—are among the most advanced in the world from a pollution-abatement point of view, the Commerce Department official noted.

Additionally, the 36.47 per cent subsidy rate on these ships is the lowest rate achieved by an American shipyard for constructing conventional ships in the post-World War II period.

Since the amount of subsidy represents the difference between the cost of building the ships in a U.S. yard and abroad, the low rate indicates that American shipyards are succeeding in narrowing the price advantage foreign yards have had, Blackwell added.

He traced the low subsidy rate to the fact that, with nine ships of essentially the same design on order, National Steel has been able to achieve economies of production that would otherwise not be possible.

"This is the type of cost reduction that the President's program is designed to encourage," he explained.

Also noteworthy from an environmental point of view are the two VLCCs contracted for by Maritime Administration, Bethlehem Steel, and Gulf Oil. The $81.5 million contract price for each vessel includes $4.6 million in design features aimed at minimizing the possibility of accidental or intentional oil discharges into the sea.

These changes, according to Blackwell, include the installation of fixed tank-cleaning machinery, tanks for retaining oily wastes on board ship, and an oil-water separator to reduce the oil content of ballast-water discharges.

Improved vessel control, resulting from such additions to the ships as engine room telegraphs on the bridge wings, remote-reading draft gauges, and a built-in communications system linking cargo handling and docking stations with the bridge, will also help reduce the chances of pollution.

Discussing the three LNG tankers to be built by Avondale, he pointed out that the construction pact includes the lowest subsidy rate ever achieved under the construction-subsidy program—16.5 per cent.

"In contrast with the low rate on the National Steel tankers, this one results from the expertise of Avondale and the manufacturer of the ships' gas-containment system, Kaiser Aluminum and Chemical Sales, Inc., in building sophisticated, advanced ships like these and from inflation of foreign prices for constructing gas tankers."

Commenting on the overall progress being made under President Nixon's maritime program, Blackwell—the chief federal official charged with implementing it—said:

"When delivered in the next few years, these ships will noticeably advance us toward the program's goal of a revitalized, competitive American-flag merchant fleet. In terms of carrying capacity—the best measure of shipping productivity—these 47 vessels now on order represent the equivalent of several hundred of the old ships in our current fleet.

"They will significantly upgrade this nation's ability to carry its foreign commerce, particularly the energy imports we will need in the years ahead."

Looking ahead, Blackwell said he anticipates the award of more shipbuilding contracts in the next few months, as the decade-long ship construction program continues to gather momentum.

While declining to predict specifics concerning the contracts, he said he expects the emphasis to remain on "energy carriers"—tankers, LNGs, and ore-bulk-oil carriers—as the United States increases its vital petroleum and natural gas imports. □

It's a long way to Louisiana

by
Ed Nurenberg

It started out as a routine assignment. The Vietnam conflict was over, and cargo was returning to the States in ships chartered by Military Sealift Command. Therefore, when the U.S. Army decided it was going to store a DeLong Pier in New Orleans, La., it asked MSC to handle the move from Cam Ranh Bay, South Vietnam.

The job went to Alaska Barge and Transport, Inc. (AB&T), which has been providing sea transportation in Southeast Asia under an MSC contract for the past seven years.

AB&T engineers began dismantling the pier at Cam Ranh Bay in early January. It came apart in six sections, each weighing approximately 600 tons. Plans called for each section to be lifted aboard a barge and towed to New Orleans. However, there was no crane in Vietnam big enough to do the job, and the first of many problems began.

AB&T personnel in Saigon started the search for equipment capable of lifting this weight in shipyards from Hong Kong to Singapore. Finally, a floating crane, owned by Brown and Root construction company, was located in Brunei, Borneo, necessitating towing the pier sections there for loading prior to the long trip home.

Seven weeks (11 days ahead of schedule) after the dismantling started and after the tow to Borneo, the pier sections were loaded on the 336-foot-long barge and attached to AB&T's tug, Mohawk. The ocean-going tug began her tow on March 7 with no further problems anticipated. The situation changed on April 23 when Mohawk radioed for assistance.

"Dead in the water" read the distress call from the Mohawk, a situation which could spell disaster if a sudden storm arose. The tug had no power, and no steering capability. Mohawk had been disabled by a broken crankshaft, (thrown rods, and cracked engine block) approximately 75 miles southwest of Wake Island and about 3,100 miles from South Vietnam.

In the event of emergency, MSC's contract with AB&T specifies that the Navy will provide assistance. Aid in this case was provided by the USS Flint, a fleet ammunition ship, and the USS Abnaki, a fleet ocean tug.

First, Abnaki was ordered to depart Pearl Harbor for the site of the disabled Mohawk. However, her estimated time of arrival was April 29. Therefore, USS Flint diverted from her normal operating area with the Seventh Fleet to rendezvous with the stricken tug and lifeless barge and attempted to take them both under tow. This was accomplished April 26.

Meanwhile, in another part of the world, AB&T's tug M.V. Arapaho was being made ready to undertake the voyage from Vancouver, B.C. to Honolulu. Her role in the saga would be that of relief tug to replace Mohawk and to finally deliver the DeLong pier at New Orleans.

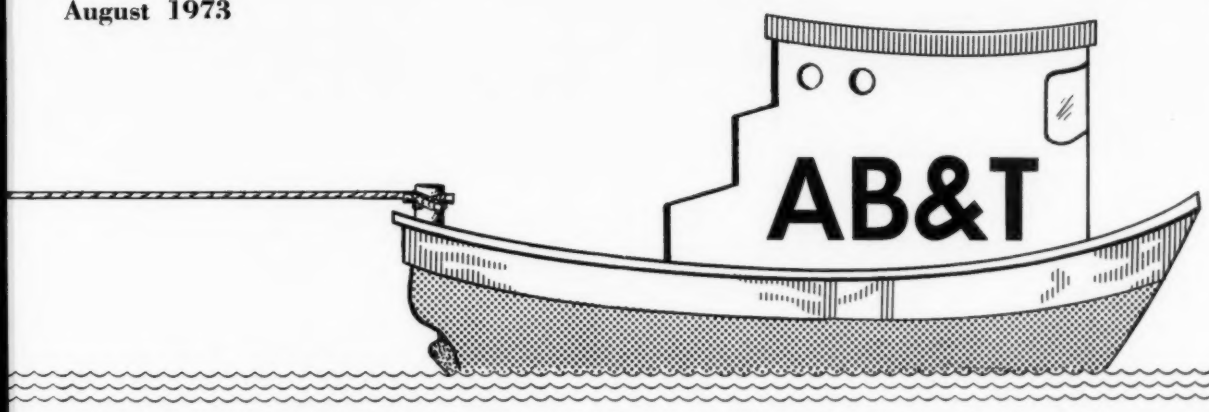
USS Abnaki, with her crew of 85 Navy men, arrived on the scene April 29. Transfer of the tow was accomplished on the 30th, the delay being due to continual parting of the towing hawser. Abnaki experienced trouble with the towing line later in the voyage because of high seas. At one point, her crewmen had to splice the main towing hawser and refuel from the reserve tanks of Mohawk.

The Arapaho was not about to escape unscathed either. She arrived in Honolulu on schedule, but was unable to get under way for her rescue mission because of damage to the armature of one generator. A replacement couldn't be found so the armature had to be rewound.

Arapaho repairs were completed May 19, and she reached USS Abnaki three days later, taking over the barge and dismantled DeLong pier. Abnaki departed the scene with the stricken Mohawk in tow and headed for Pearl Harbor where arrangements had been made for her overhaul.

Position reports from Arapaho were routine compared to previous incidents involving the tow. Routine, that is,

PULL THAT BARGE: Rail-riding "mule" helps guide the tug Arapaho as it transits the Miraflores Locks of the Panama Canal. It pulls Barge 336-1 carrying six sections of a DeLong pier.



until Arapaho was almost in sight of the Panama Canal.

She arrived in the Canal Zone in the midst of a labor dispute between Canal pilots and management. A requirement was levied on the ship to provide shelters for pilots and connecting catwalks on the barge. They were constructed June 23.

Five pilots were needed for the canal transit, one for the tug, two for the barge from Balboa to Gamboa and two on the barge from Gamboa to Cristobal. Due to shortage of pilots and low priority given to moving dead tows, the Canal transit did not begin until June 26.

But the 26th wasn't any better than other days. Barge 336–1 hit the canal wall while transiting Miraflores locks. Then, the port captain would not hold an investigation until the next day. Investigation completed, and no damage reported to barge or lock, the tow proceeded toward New Orleans.

It was on July 4 when MSC, Gulf subarea, wired MSC headquarters in Washington the following: "Tug Arapaho, operated by Alaska Barge and Transport Co., towing Barge Number 336–1 arrived 041630 JUL 73. Barge 336–1 docked at Army Base for discharge six sections DeLong pier."

The long tow had ended, four months after it began, giving the AB&T crew something to celebrate in addition to Independence Day.

From AB&T's main office in Saigon such functions as stevedoring, lighterage, coastal towing, ship and shoreside equipment repair and warehousing have been carried out throughout South Vietnam for the past several years.

But, MSC's contract with Alaska Barge is nearing an end. All of AB&T's various jobs in Vietnam have been completed and all that is left is to move out the equipment and sign an end to a seven-year association. □

MI

MSC Office, Vietnam has been commanded by 11 different men in its effort to supply thousands of fighting men.

Victory by the ton

by
Larry Manning

Photos
by
Chief Journalist Byron Whitehead

Nominated by the Military Sealift Command for a 1973 National Defense Transportation Assn. outstanding unit award, the MSC Office, Vietnam, failed to win.

But, several hundred thousand troops—Army, Navy, Marine and Air Force—who were supported by that office during the war in Vietnam may well think differently. It's no exaggeration to say that some owe their lives to the machines, equipment, weapons and supplies delivered by MSC controlled ships—all supervised by the MSC Office, Vietnam. And, hundreds of thousands of others received items which helped make life in a combat zone more bearable, among them good food, drinks and tobacco. One might also include in that category the materials used to build recreation centers, hobby shops and clubs, plus availability of sporting equipment and electronic gear.

During the years between 1965 and 1972, more than 85.7 million measurement tons of cargo were poured into Vietnam and Thailand by MSC—along with 16 million-plus long tons of petroleum products.

But, while the flow of the ground and air war peaked and flattened out, there was a continuing need for a sea-lifted mountain of material—and the MSC Office, Vietnam, maintained the mountain as part of the Military Sealift Command, Far East, which has its headquarters in Yokohama, Japan.

Since 1964, the MSC office has been commanded by 11 different officers. (See box for names.) At the peak, in 1967, 135 men were assigned to the office, 133 military and two civilian specialists. Today, following the ceasefire, the Vietnam office is still in existence. Now commanded by a civilian, D. I. Berney, it has a total staff of only five people, all civilians. They remain only to handle the flow of supplies and equipment allowed by the ceasefire agreement to supply South Vietnamese forces—plus meeting requirements of the peace keeping force.

OFFICE: Military Sealift Command Office, Vietnam was located in an old building along the Saigon waterfront.

MSC ships, government owned or chartered, no longer stack up in Saigon harbor waiting to be unloaded. They no longer dock alongside DeLong piers floated into place. The troops have gone, and the DeLong piers even now are being towed across the broad Pacific to military bases in the United States. Container yards, such as the big one at Cam Ranh Bay, are idle and much of the cargo handling gear used in Vietnamese ports in the war years has been dismantled.

For the Vietnam office, 1969 was the peak year with 15.8 million measurement tons of cargo and 3.02 million long tons of petroleum delivered. But, even at the end, in 1972 and 1973, the office staff kept busy. Average deliveries amounted to approximately half a million tons of dry cargo and 200,000 tons of petroleum products each month. Some have estimated that more than 1½ tons a month were needed to support each military man in Vietnam, with additional tons required to help develop South Vietnamese resources and the nation's economy.

Typical of the surge in demands which followed each change in the situation were those programs bearing names such as Project Enhance and Enhance Plus. Enhance, as the name implies, was a Department of Defense effort to upgrade quality of military equipment in the

COMMANDING OFFICERS
MILITARY SEALIFT COMMAND OFFICE, VIETNAM

April 1965—November 1965	*Lt. Cmdr. G. J. Kaiser*
November 1965—June 1966	*Capt. D. J. Jacques*
June 1966—July 1966	*Capt. J. L. Hunnicutt*
July 1966—June 1967	*Capt. C. F. Pfeifer*
June 1967—June 1968	*Capt. C. K. Schmidt*
June 1968—June 1969	*Capt. L. K. Payne*
June 1969—June 1970	*Capt. H. J. Lyon*
June 1970—June 1971	*Capt. G. R. Cheek*
June 1971—June 1972	*Capt. R. R. Ross, Jr.*
June 1972—December 1972	*Cmdr. R. D. Morin*
December 1972—March 1973	*Cmdr. T. J. Sullivan*
March 1973—Present	*Mr. D. I. Berney*

The Military Sealift Command office in Vietnam was awarded a Meritorious Unit Commendation in May by Secretary of the Navy John W. Warner.

The award was made for the period of Jan. 1, 1971 to Jan. 28, 1973 for outstanding accomplishment under "arduous and hostile conditions." The citation states in part:

"Despite periodic enemy bombardment of units, office and assets, the Military Sealift Command Office, Vietnam efficiently and expeditiously carried out the task of administering the waterborne movement of millions of tons of supplies, ammunition, oil and building materials.

"At the same time, new concepts in waterborne logistics were conceived, tested and made operational." Office members, the citation said, "have consistently displayed a high degree of skill, imagination, cooperation and perseverance in meeting the great responsibility of coordinating Military Sealift Command controlled shipping in Vietnam. By their exemplary performance of duty, the officers and men of the Military Sealift Command Office, Vietnam contributed substantially to the military effort of free-world forces in the Republic of Vietnam and upheld the highest traditions of the United States Naval Service."

BUNCHED UP: U.S. merchant vessels chartered by MSC crowd the river port of Saigon.

hands of the South Vietnamese, and was a part of the successful Vietnamization program. Thrust was on delivery of a substantial number of outsize items of equipment prior to withdrawal of the U.S. forces—items such as aircraft, tanks, barges, tugs and other vehicles.

Enhance Plus, just prior to completion of the ceasefire agreement, was an accelerated phase of the initial program—a speed-up made necessary by the turnover of the war to the South Vietnamese. With time and total tonnage representing the challenges, MSC did more than its part, all under the direct on-the-scene supervision of the MSC Vietnam staff.

Coordination was the key, with office members using all their technical know-how and maritime experitise to match each military requirement with sealift capability. In the Plus phase of Enhance, more than 70 per cent of all tonnage delivered was moved in ships even though it was at first thought jet aircraft would have to carry most of the load. While ships obviously move slower than jets, the volume they deliver can compensate for speed when capacity and ship assets are professionally managed.

Adm. Noel Gayler, commander in chief of the Pacific command, recognized that when he wired his congratulations to MSC. "Greatly appreciate MSC's contribution to success of Enhance Plus. MSC's responsiveness and professionalism were major factors in getting the job done," he said.

Just months later, the problem was reversed as Operation Roll-up was launched. Following the ceasefire, the challenge MSC office faced was how to help move 194,000 measurement tons of critical and valuable military gear out of Vietnam in less than 60 days. They did it—by calling on commercial ships and using the command's government owned vessels, welding assets represented by ships and crews into a smoothly functioning team. Trick was to get the right ship at the right port, at the right time, for maximum utilization of ship capability. It's easy to say, hard to do, but the job got done, on time.

The MSC office, however, had challenges other than expediting flow of cargo into and out of the country. Some of their greatest problems over the years were those stemming from in-country needs. One innovation,

WOMEN STEVEDORES: Many Vietnamese worked the docks. Here a woman stevedore operates a forklift loading cargo on USNS Brostrom.

labeled Express Moves, helped speed the flow of critically needed ammo. Technique was, as usual, disarmingly simple.

Put the ammo on stake and platform truck trailers, load them all aboard LSTs, small landing ships, and deliver them on the beach for driveaway delivery. Turnaround time for the LSTs was cut to a single day, ammo handling time was sharply curtailed, and delivery speeds were up significantly. Chalk that record up to the MSC men in the Vietnam office who knew what had to be done, and were adroit in conjuring up better ways of doing it.

Another responsibility has not had the publicity it deserves—although very much appreciated by the military logisticians in the theater. It involved supervision of a cost-plus-fee-award contract MSC negotiated with Alaska Barge and Transport, Inc. (AB&T).

AB&T, which operated in Vietnam from March 1966 to June 1973, provided tug and barge services, operated maintenance facilities, and supervised port operations. Using both area and U.S. transportation pros, they delivered cargo over the beach in coastal water and up and down inland waterways. Several employees were killed by hostile action, and many others were injured. Their performance, however, convincingly answered that often voiced question of what civilians could and would do in combat? The answer? The same thing as men who wear a military uniform.

With AB&T know-how and ability to innovate and improvise—aided by supervision of the MSC, Vietnam office, costs of the contract were lowered from $3.5 million in March 1967 to $2.2 million in October 1967.

At the same time, tonnage totals were upped—result of assignment of new missions such as Cambodian resupply and inauguration of shuttle runs for movement of ammo between Vung Tau and Can Tho. Expense cuts were the result of streamlining the administrative structure, closing of sites made less productive by changing patterns of the war, and keeping a tight rein on the work

ARMY TANK: Heavy equipment is unloaded from SS Seatrain Georgia.

force size so that it was lean enough to do the job economically, but fit enough to meet surge requirements.

It's easy to picture a transportation unit handling ammo, food, supplies and typical military gear, but one doesn't normally visualize barges hauling millions of tons of rock when he considers transportation problems inherent in a war zone.

But, rock was big in the MSC office rating charts which hung in the operations center. More than 2.1 million short tons of rock, sand, and gravel were hauled from quarry to construction site in the last months of the war in Vietnam. It was done with a force of 25 tugs, 111 barges and a great deal of managerial skill.

The rock was moved over rivers, canals, and in coastal ocean waters on its way to 14 discharge sites. When a barge was hit—as some were—you know how they sank, like rocks. Like General Electric, the MSC Office, Vietnam, might well boast that progress has been one of its most important products. Results of the rock haul are seen in the roads which now carry Vietnamese traffic and centers built to house the thousands of refugees who often fled for safety on ships provided by the MSC office.

Typical were the 4,000 who steamed from Tan My to the Chu Lai area after a North Vietnamese push south. Five LSTs did the job in a few days after satellite ports were reopened and staffed for the emergency mission.

A great deal could be written about the job done by the MSC office over the years. To do justice to the story, one would have to take a historical approach—researching the shipping documents, the personal experiences of those who served there, the ship sailing reports and a thousand other records.

But some things need not be supported by minute detail because they are accepted readily by people who were involved. That's why MSC Office, Vietnam, is a "winner" in the minds of the men and women who served in Vietnam. They saw what was done by ships, merchant mariners and those who supported them ashore—and recognize that the MSC Office, Vietnam, was indeed an oustanding unit. □

DWARFED: A Vietnamese mother and son returning from a fishing trip are sharply contrasted by the huge Nancy Lykes in Saigon Harbor. Lykes chartered several vessels to MSC throughout the Vietnam conflict.

"Language of the sea". . . *See story page 11.*

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